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Profiles of Cognitive Appraisals and Triangulation into Interparental Conflict: Implications for Adolescent Adjustment

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Abstract

Youth appraisals and triangulation into conflicts are key mechanisms by which interparental conflict places youth at risk for psychological maladjustment. Although evidence suggests that there are multiple mechanisms at work (e.g., Fosco & Feinberg, 2015; Grych, Harold, & Miles, 2003), this body of work has relied on variable-centered analyses that are limited to the unique contributions of each process to the variance in outcomes. In reality, it is possible that different combinations of these risk mechanisms may account for multifinality in risk outcomes. Using latent profile analysis (LPA) we examined profiles of threat appraisals, self-blaming attributions, and triangulation in relation to internalizing and externalizing problems in a sample of 285, ethnically diverse high school students. The current analyses revealed five distinct profiles of appraisals and triangulation, including an overall low-risk group and a global high-risk group, in which all three processes were below average or above average, respectively. Additional profiles included combinations of threat and blame, threat and triangulation, and blame and triangulation. Links between these profiles and emotional distress, problem behavior, and academic outcomes are discussed.

Keywords

Interparental Conflict; Cognitive Appraisals; Triangulation; Latent Profile Analysis; Maladjustment; Academic Achievement; Threat; Self-Blame

Frequent, intense, and poorly resolved interparental conflict is an established risk factor for negative child and adolescent outcomes, such as poor psychological adjustment (Buehler et al., 1997; Dadds & Powell, 1991; Emery, 1982; Grych & Fincham, 1990) and academic outcomes (Harold, Aitken, & Shelton, 2007), as well as diminished self-esteem and self-efficacy (Fosco & Feinberg, 2015; Siffert, Schwarz, & Stutz, 2012). However, there is considerable variation in the degree of risk conferred and the types of problems youth have in families characterized by discordant interparental relationships (e.g., Grych, Jouriles, Swank, McDonald, & Norwood, 2000). To explain these issues of multifinality in youth adjustment, considerable attention has been given to differences in youth's subjective

experiences with their parents' conflicts, such as emotional insecurity (e.g., Cummings, George, McCoy, & Davies, 2012; Davies & Cummings, 1994; Davies et al., 2002) and cognitive appraisals of parental conflicts (e.g., Fosco & Feinberg, 2015; Fosco & Grych, 2008; Grych & Fincham, 1990; Grych et al., 2003; Grych, Fincham, Jouriles, & McDonald, 2000). Common to both emotional security and cognitive-contextual perspectives is the focus on youths' evaluations of parental conflicts and the cognitive and affective processes that guide and mobilize coping behaviors. The cognitive-contextual framework (Fosco, DeBoard, & Grych, 2007; Grych & Fincham, 1990) emphasizes multiple processes, including threat appraisals, self-blaming attributions, and children's triangulation into parental conflicts as unique mechanisms that increase risk for maladjustment (Fosco & Grych, 2008; Gerard, Buehler, Franck, & Anderson, 2005; Shelton & Harold, 2008). By considering multiple, unique risk mechanisms simultaneously, it may be possible to identify specific risk processes for particular outcomes.

Threat appraisals reflect youths' evaluations of the personal relevance of interparental conflicts and the potential for harm to themselves or the family in general (Fosco et al., 2007). Generally, threat appraisals include worries about the implications of interparental conflict, such as global fears that something bad will follow, or specific concerns that conflict may lead to escalations in hostility, result in harm to a family member, lead to youth involvement, or even lead to parental divorce (Atkinson, Dadds, Chipuer, & Dawe, 2009; Grych, Seid, & Fincham, 1992; Grych & Cardoza-Fernandez, 2001). In homes where conflict is typically resolved and does not escalate to problematic levels, youth tend to perceive conflict as less threatening (Grych & Fincham, 1993). Another component to threat appraisals are youths' beliefs about their ability to cope with the stressors they experience, often labeled "coping efficacy". The perception of parental conflicts as threatening and beliefs about one's coping efficacy are linked processes and often combined to reflect a broader threat appraisal (Grych et al., 1992), in which youth feel high levels of perceived threat and low levels of coping efficacy. Threat appraisals are consistently correlated with maladjustment, including internalizing and externalizing problems, as well as cardiovascular reactivity and physical health (Atkinson et al., 2009; Cusimano & Riggs, 2013; El Sheikh & Harger, 2001; Fosco & Grych, 2008; Gerard et al., 2005). Although cross-sectional data indicate robust relations between threat and both internalizing and externalizing problems (for a meta-analytic review, see Rhoades, 2008), longitudinal studies indicate that threat is most consistently a risk factor for internalizing problems (Fosco & Feinberg, 2015; Grych et al., 2003; except see Jouriles, Vu, McDonald, & Rosenfield, 2014).

Youth may also form *self-blaming attributions*, defined as children's beliefs that they are responsible for causing interparental conflicts or for resolving disagreements. Several studies document a link between self-blaming attributions and youth adjustment problems (Fosco & Grych, 2007; Rhoades, 2008). When controlling for other factors, such as threat appraisals, emotional insecurity, or other family processes, self-blaming attributions are uniquely associated with externalizing (but not internalizing) problems in several studies (Davies et al., 2002; Fosco & Grych, 2008; Grych et al., 2003), however, in a minority of studies self-blame is correlated with both internalizing and externalizing problems simultaneously (Gerard et al., 2005). In a longitudinal analysis, Grych and his colleagues (2003) found self-blaming attributions to be associated with externalizing problems but not

internalizing problems. Taken together, the extant literature seems to indicate a consistent relation between self-blame and externalizing problems, and a somewhat tenuous relation between self-blame and internalizing problems.

Triangulation, which describes a family dynamic in which children are drawn into interparental conflicts, is a third important risk process that accounts for children's risk related to interparental conflict. Specific types of triangulation have been identified in which children may be scapegoats for their parents' conflicts, may serve as conflict mediators, or may form alliances with one parent during conflicts (Buchanan & Waizenhofer, 2001; Emery, 1982). Although these reflect different family dynamics, they share a common theme in that triangulation is a process by which children are drawn into conflicts between parents. Early evidence found that triangulation may be a mechanism linking interparental conflict with youth maladjustment (Buchanan & Waizenhofer, 2001; Grych, Raynor, & Fosco, 2004). Further explorations of triangulation in the context of other processes have generated varying implications for risk processes. For example, Fosco and Grych (2008) found that triangulation was uniquely associated with externalizing problems but not internalizing problems, when accounting for children's threat, self-blame, and emotional distress. Other work has documented associations between triangulation and internalizing problems, but not with externalizing problems. In a study that also controlled for mothers' and fathers' depressive affect, Franck and Buehler (2007) documented an association between triangulation and internalizing problems, but not externalizing problems. In a longitudinal analysis that also accounted for emotional reactivity, Buehler and Welsh (2009) documented an association between triangulation and internalizing problems; again, failing to find a link between triangulation and externalizing problems. Other recent longitudinal evidence supports a link between triangulation and externalizing problems in violent families (Mueller, Jouriles, McDonald, & Rosenfield, 2014), and indirectly through parentadolescent hostility (Fosco, Lippold, & Feinberg, 2014).

Applying a Person-Centered Approach to Appraisals and Triangulation

Although threat, self-blame, and triangulation are consistently documented risk processes for youth maladjustment, the pattern of results across studies is heterogeneous. The large majority of studies have applied variable-centered analyses (e.g., multiple linear regression) that can identify the relative contributions of threat, self-blame, and triangulation to internalizing and externalizing problems on average, across the whole population. These risk processes, however, do not occur in isolation but instead co-occur within individuals and families to different degrees and in different combinations. Person-centered analyses, such as latent profile analysis (LPA) provide an intuitive and parsimonious approach to modeling heterogeneity among individuals in this co-occurrence and may offer new insights into the ways in which threat appraisals, self-blaming attributions, and triangulation interact within children and adolescents to confer risk.

Only a few studies have applied person-centered approaches to the analysis of child or adolescent adjustment in the context of interparental conflict. As one example, Grych, Jouriles, and their colleagues (2000) conducted cluster analyses of internalizing problems, externalizing problems, and self-esteem in a sample of children and mothers residing in

shelters for battered women. Their results indicated that there were five clusters of the three adjustment measures. Such analyses found that some children were experiencing problems in multiple domains, while others were more uniquely internalizing or externalizing.

Other work sought to capture typologies of family functioning by incorporating measures of interparental, parent-child, and triadic functioning. In a study using cluster analysis, Davies and his colleagues (2004) identified four family types (cohesive, enmeshed, disengaged, and adequate) based on aspects of interparental and parent-child relationship quality; among these profiles, enmeshed and disengaged patterns of family organization conferred risk for children's emotional insecurity, threat appraisals, and ultimately, internalizing problems. More recently, Sturge-Apple and her colleagues (2010) applied LPA to seven dimensions of family functioning and identified three distinct profiles into which families were classified: cohesive, disengaged, or enmeshed. By identifying these profiles, it was possible to identify different risk for school-related maladaptation (i.e., classroom engagement, emotional adjustment to school) and psychological adjustment (i.e., internalizing problems, externalizing problems) trajectories. Together, these studies underscore the value of applying a person-centered approach to conceptualizing family functioning in relation to children's risk outcomes.

The Current Study

The current study applied a LPA approach to three processes that have previously been identified as mediators (threat, blame, and triangulation) of the link between interparental conflict and children's adjustment problems. By using a person-centered approach, it is possible to consider that these processes may not occur in isolation; rather, adolescents may experience threat, blame, and triangulation simultaneously, and these processes may interact in complex ways to produce outcomes. Examining these processes together to identify profiles provides unique information about how these processes cluster together within individuals and which profiles confer the greatest risk for specific outcomes, such as internalizing problems, externalizing problems, or academic problems. Thus, this study had two primary goals. First, we determined whether there were distinct profiles of threat appraisals, self-blaming attributions, and triangulation into parental conflicts that might capture different patterns of evaluating and engaging in parental disagreements. Second, we evaluated whether there were unique implications of membership in each of these profiles for adolescent adjustment, characterized by internalizing problems, externalizing problems, and academic performance.

To address the first goal, we applied LPA as a person-centered approach to identify subgroups of adolescents characterized by similar patterns of responses to scales assessing threat, self-blame, and triangulation; each subgroup represented a unique profile of evaluation of and involvement in parental conflict. After identification of the profiles, to address the second goal, subgroup membership was used to predict levels of emotional distress (e.g., internalizing problems), problem behavior (e.g., externalizing problems), and academic performance using the currently recommended approach to LPA with distal outcomes (Bakk & Vermunt, 2015).

We treated our analyses as exploratory because of the lack of prior research to guide hypothesis formation about how appraisals and triangulation might co-occur. Nonetheless, we did expect to identify two extreme subgroups of adolescents, one characterized by relatively low levels on all three scales and one characterized by relatively high levels on all three scales, because of variability in exposure to interparental conflict. Beyond these two profiles, we expected that triangulation may have a unique relationship with threat and selfblame. Fosco and Grych (2010) found that adolescents' threat appraisals predicted increases in triangulation over time, suggesting that children who perceive conflict as threatening may be more likely to become involved. In the same analysis, triangulation predicted increases in self-blaming attributions over time, suggesting that involvement may also shape adolescents attributions of blame. Thus, we expected that there may be at least two additional subgroups, in which triangulation and each type of appraisal were uniquely clustered. Finally, we also hypothesized that there may be at least one group in which adolescents exhibited elevated appraisals but the relative absence of triangulation. This hypothesis was guided by work that suggests that threat may be related to a greater propensity to avoid parental conflicts (Shelton & Harold, 2008), or findings that triangulation is sometimes uncorrelated with selfblame (Gerard et al., 2005).

Method

Participants and Procedures

Participants were recruited from a large, ethnically diverse urban public high school in the upper Midwest. Letters explaining the study and consent forms were sent home to parents of students who were enrolled in social studies classes; approximately 80% of parents gave permission for youth participation. Adolescents who obtained parents' informed consent were invited to participate; approximately 75% of those students were present on the day of data collection and agreed to complete the survey packet. To maximize generalizability of the study, no students were excluded from participation. Data collection took place during 90-minute social studies class periods, with two researchers present to answer any questions individually during administration.

On the day of data collection, adolescents who had not obtained parental consent were excused and given an alternate activity to complete in a different location. Participating adolescents' signed assent was then obtained and questionnaires were distributed with the instructions to complete them quietly and without conversing with their peers. Participants were also instructed to respond to questions about interparental conflict or parent-child relationships in a manner that best captured their family circumstances. Research assistants collected surveys upon completion.

This procedure resulted in a total sample of 326 9th to 12th grade students. Participants were included in the current sample if they provided responses to at least one of the scales included in the LPAs (threat appraisals, self-blaming attributions, or triangulation), for an analyzed sample of 285 adolescents. Adolescents in this sample ranged in age from 14 to 19 years (M= 16.33, SD= 1.15). There were slightly more females (60.4%) than males (49.6%). The ethnic makeup of the total sample was 60.4% Caucasian, 9.5% African American, 18.9% Latino/Hispanic, 4.6% Asian/Pacific Islander, 1.8% Native American,

2.1% Biracial, and 3.1% other. Approximately 43% of youth reported that their biological parents were divorced. Of these youth, 50% reported that at least one parent had remarried, and 66% reported that they lived with at least two caregiving adults in their primary residence. No socioeconomic status information was collected from participants.

Measures

Survey data for this study were drawn from two measures: the Children's Perceptions of Interparental Conflict (CPIC; Grych et al., 1992) and the Youth Self-Report form of the Child Behavior Checklist (YSR; Achenbach, 1991).

Threat appraisals—The 12-item Threat scale was used from the CPIC to assess the level of threat felt by respondents when interparental conflict occurs and their perceived ability to cope with the conflict. The Threat scale is comprised of the perceived threat and coping inefficacy subscales, which have been determined to load on to a superordinate scale (see Grych et al., 1992), and have been combined in the majority of prior studies to reflect Threat appraisals (e.g., Grych et al., 2003). Aspects of perceived threat included the adolescent's worries about the implications of parental conflict and concerns about conflict will lead to. Sample items include "When my parents argue, I'm afraid something bad will happen," "When my parents argue I'm afraid one of them will get hurt," and "I don't know what to do when my parents have arguments." Threat scale internal consistency reliability was adequate ($\alpha = .77$).

Self-blaming attributions—The 9-item Blame scale was used from the CPIC to tap into the extent to which parental disagreements concern child-related issues, as well as an adolescent's tendency to blame himself or herself for these disagreements. Sample items include "It is usually my fault when my parents argue" and "My parents blame me when they have arguments." The validity of this scale as a measure of children's subjective evaluations of conflict has been supported by significant correlations with children's appraisals of specific episodes of conflict (see Grych et al., 1992). Blame scale internal consistency reliability was adequate ($\alpha = .85$).

Triangulation—Adolescent triangulation into parental conflicts was assessed using the Triangulation subscale of the CPIC (Grych et al., 1992). This 8-item subscale assesses a wide range of triangulation behaviors, capturing the extent to which adolescents feel involved in, caught in the middle of, or drawn into cross-generational coalitions during their parents' conflict. Sample items include, "When my parents argue I end up getting involved somehow" and "I feel caught in the middle when my parents argue." This scale correlates with ratings from observed child involvement in interparental conflict during triadic family interactions (Lindahl, 1998). Triangulation scale internal consistency reliability was adequate ($\alpha = .72$).

Adolescent adjustment—The Anxious/Depressed and Aggressive Behavior scales from the YSR were used to assess adolescents' emotional distress and problem behavior, respectively. Each item is answered on a three point Likert-type scale ranging from "never or almost never" to "often." The Anxious/Depressed scale was used as a measure of emotional

distress and includes questions such as, "I cry a lot" and "I feel that no one loves me." The Aggressive Behavior scale was used as a measure of problem behavior and includes items such as, "I physically attack people" and "I argue with others." The internal consistency reliabilities of the scales was adequate (α = .92 for Anxious/Depressed; α = .87 for Aggressive Behavior).

Academic performance—Adolescents were asked "what is your current Grade Point Average?" and were allowed to write in a number or letter grade. If letter grades were entered, they were re-coded to numerical form separating grades by .50 increments to be consistent with the schools' grade metric. The metric was: "F" = .00, "D-" = .50, "D" = 1.00, "C-" = 1.50, "C" = 2.00, "B-" = 2.50, "B" = 3.0, "A-" = 3.5, and "A" = 4.00. This school did not use plus grades (e.g., B+).

Analysis Plan

Data analysis proceeded in three phases. The first phase identified and described latent profiles of evaluation of and engagement in parental conflict using LPA. The second phase examined whether prevalence rates of profile membership differed based on adolescent age, adolescent gender, and divorced status of parents in order to understand who belonged to the identified profiles. The third phase determined whether profile membership was related to emotional distress, problem behavior, and GPA.

LPA is considered a person-centered approach, in contrast to a variable-centered approach, because it focuses on the interactions (i.e., patterns or profiles) across multiple characteristics within individuals instead of effects of single variables or interactions between variables across all individuals. This is critical because threat appraisals, self-blaming attributions, and triangulation into parental conflict co-occur within individuals simultaneously.

LPA is a type of finite mixture model that uses manifest items with continuous responses to divide a population into a set of mutually exclusive and exhaustive latent classes (i.e., profiles; Gibson, 1959; Lazarsfeld & Henry, 1968). In a standard LPA, two sets of parameters are of most interest. The first set is the latent profile membership probabilities, which describe the distribution of the profiles in the population. The second set is the itemresponse means (and variances), which describe the profile-specific item means (and variances). Profiles are interpreted and named based on the patterns of item means.

Model selection was based on the Akaike information criterion (AIC; Akaike, 1974), Bayesian information criterion (BIC; Schwartz, 1978), sample size adjusted BIC (a-BIC; Sclove, 1987), entropy (Celeux & Soromenho, 1996), and a bootstrapped likelihood ratio test (McLachlan, 1987; McLachlan & Peel, 2000), as well as model stability and interpretability. Lower values for the AIC, BIC, and a-BIC indicated better model fit; higher values for entropy indicated higher classification utility; and significant bootstrapped likelihood ratio test *p* values indicated better model fit compared to models with 1 fewer profiles. Emphasis was placed on the utility and theoretical interpretation of a solution. Model identification for all models was checked with 1000 initial stage starts and 100 final stage starts; all models were estimated using Mplus version 7.3 (Muthén & Muthén, 1998–

2015). Item-response variances were restricted to be equal across profiles by default to improve model identification.

Predictors may be added to an LPA using baseline-category multinomial logistic regression. Effects of predictors on profile membership are expressed as odds ratios describing the increase in odds of membership in a particular latent profile (i.e., the target profile) compared to a reference latent profile, for one-unit increases in the predictor. Any profile may be selected as the reference profile to facilitate interpretation. After identification of the profiles, adolescent age, adolescent gender, and divorced status of parents were added simultaneously to the selected model to determine if any of them were significant predictors of profile membership.

Profile membership may be used to predict outcomes, although this is somewhat more difficult methodologically than adding covariates. Several new approaches have been proposed in the recent methodological literature. We used an approach proposed by Bolck, Croon, and Hagenaars (2004), colloquially termed the "BCH approach" (Bakk and Vermunt, 2015; Vermunt, 2010). This approach is currently recommended as optimal for predicting continuous distal outcomes from profile membership (Asparouhov & Muthén, 2015). This approach classifies individuals to profiles based on posterior probabilities, but then adjusts the outcome analysis that uses these classifications for classification error. Effects of profile membership on an outcome are expressed as pairwise differences between profiles in the means of the continuous outcome conditional on latent profile membership. Note that the standard errors available in Mplus at this time may not produce adequate coverage (Asparouhov & Muthén, 2015), so significance tests of the pairwise differences should be interpreted with caution; however, this is also the case for the "standard approach" that does not adjust the outcome analysis, and so is not a limitation of the BCH approach itself. After identification of the profiles, profile membership was used to predict average levels of emotional distress, problem behavior, and GPA.

Results

Descriptive statistics for demographic characteristics, profile indicators, predictors of profile membership, and outcomes are shown in Table 1.

Model fit information and model selection criteria are shown in Table 2. Models with 1–7 profiles were considered; the BIC was minimized for the 5-profile model, the AIC and a-BIC were not minimized but practical decrements stopped around the 5- or 6-profile model, and the BLRT suggested the 6-profile model (i.e., last model with a significant *p*-value). Entropy ranged from .82 (2-profile model) to .90 (3-profile model), with values for larger models in the mid to upper .80s. Therefore, we considered models with 5 or 6 profiles. Upon examination, the 5-profile model included one profile that was split into two similar profiles in the 6-profile model, suggesting extraction of an additional profile was redundant and uninterpretable theoretically. Thus, we selected the 5-profile model for theoretical interpretation and additional analysis.

Parameter estimates for the 5-profile model are shown in Table 3. Class 1 (46% prevalence) was characterized by low threat, blame, and coping; we labeled them Low Risk. Class 2 (20%) was characterized by elevated threat and blame; we labeled them Elevated Appraisals. Class 3 (12%) was characterized by elevated threat and triangulation; we labeled them Threat-Triangulation. Class 4 (3%) was characterized by elevated blame and triangulation we labeled them Blame-Triangulation. Class 5 (18%) was characterized by elevated threat, blame, and coping; we labeled them Global High Risk.

Age (chi-square=25.7, *p*<.001), gender (chi-square=11.7, *p*=.020), and divorced status of parents (chi-square=70.6, *p*<.001) were all significant predictors of profile membership. Effects of predictors on profile membership are shown in Table 4. Despite large global effects of the predictors, standard errors for pairwise comparisons between the profiles were large and there were few statistically significant pairwise differences. Generally, the results showed the following patterns. Older adolescents were less likely to belong to the Elevated Appraisals and Blame-Triangulation profiles, moderately likely to belong to the Global High Risk profile, and more likely to belong to the Low Risk and Threat-Triangulation profiles. Compared to girls, boys were more likely to belong to the Global High Risk profile and less likely to belong to any of the other profiles. Compared to those with non-divorced parents, adolescents with divorced parents were less likely to belong to the Low Risk and Elevated Appraisals profiles, moderately likely to belong to the Global High Risk profile, and more likely to belong to the Threat-Triangulation and Blame-Triangulation profiles².

Mean levels of emotional distress (chi-square=32.3, p<.001) and problem behavior (chisquare=36.1, p<.001) and GPA (chi-square=13.3, p=.010) differed significantly across profiles. Due to the limited statistically significant pairwise differences for the predictors, they were not included as control variables in these analyses. Effects of profile membership on outcomes are shown in Table 5. Due to current limitations with obtaining high-quality standard errors in LPA with distal outcomes, the patterns of statistically significant pairwise differences should be interpreted with caution. Generally, the results showed the following patterns. Profiles characterized by elevated threat had higher average levels of emotional distress: mean emotional distress was significantly higher for Elevated Appraisals (M=10.2, SE=1.1), Threat-Triangulation (M=11.8, SE=1.6), and Global High Risk (M=12.1, SE=1.2) than for Low Risk (M=6.0, SE=0.6). Profiles without elevated threat (i.e., Low Risk and Blame-Triangulation) showed approximately equal levels of emotional distress. Profiles characterized by elevated blame had higher average levels of problem behavior: mean problem behavior was significantly higher for Elevated Appraisals (M=16.5, SE=1.3), Blame-Triangulation (M=16.8, SE=2.7), and Global High Risk (M=18.5, SE=1.2) than for Low Risk (M=11.6, SE=0.6). Profiles without elevated blame (i.e., Low Risk and Threat-

¹Given our sample size, this profile may seem too small to represent a theoretically and empirically justified profile. However, upon examination of solutions with fewer profiles, this profile consistently appeared with approximately the same prevalence (i.e., 3–4%). ²We also examined whether the profile structure differed by Divorced vs. Not Divorced status. Although the likelihood ratio test comparing restricted vs. free measurement of the profiles suggested that the structures were different (*chi-square*=31.10, *df*=15, p<. 01), the AIC (free=4883.17, restricted=4884.27), BIC (free=5035.98, restricted=4982.51), and sample size adjusted BIC (free=4902.80, restricted=4896.89) all suggested that differences in the profile structures for Divorced vs. Not Divorced were estimated. Further, we examined the parameter estimates from the restricted and freely estimated models and found that although there were some minor mean-level differences, the profile structures and interpretations were remarkably similar for Divorced and Not Divorced participants.

Triangulation) showed approximately equal levels of problem behavior. Profiles characterized by elevated threat and blame had lower average levels on GPA: mean GPA was significantly lower for Elevated Appraisals (M=2.9, SE=0.1) than for Threat-Triangulation (M=3.3, SE=0.1) and mean GPA was significantly lower for Global High Risk (M=2.7, SE=0.1) than for Threat-Triangulation and Low Risk (M=3.0, SE=0.1).

Discussion

This study applied a person-centered analytic approach to the study of adolescent appraisals of and triangulation into interparental conflicts. Using LPA, five distinct latent profiles of adolescents' appraisals and triangulation were identified and, in turn, profile membership was a meaningful predictor of internalizing problems, externalizing problems, and academic achievement. Across these profiles, it was possible to compare threat, blame, and triangulation to the overall sample averages and among profiles; different implications emerged for each risk factor. Blame exhibited a clear pattern across all five profiles. In each profile, adolescent reports of self-blame were either statistically significantly higher than the sample mean or significantly below the sample mean. A similar pattern of findings was true for triangulation, with the exception of one profile that did not differ from the sample mean. However, threat appraisals did not exhibit such a clear comparison to the sample mean. Although there were statistically significant differences from the overall sample mean in the two extreme profiles (i.e., Low Risk and Global High Risk), threat did not evidence such wide swings in levels across profiles. Thus, particularly in the case of threat appraisals, it is important to compare differences across profiles, in addition to differences from the sample mean, to gain insight into how threat appraisals contribute to risk.

As a whole, the current findings challenge a conceptualization of the mean as a "typical level" of appraisals or triangulation for at least three reasons. First, the Low Risk profile, the largest profile, was significantly lower than the sample mean on all three indicators. Second, the sample means for blame and triangulation were not representative of any of the profiles. Finally, the sample mean for threat appears to be at a level in which youth are exhibiting elevated symptoms of psychopathology. Thus, careful thought should be given to the interpretation of mean levels of appraisals and triangulation in studies using variable-centered analyses.

The identified five profiles of threat, blame, and triangulation were consistent with several of our exploratory hypotheses. As expected, there were two extreme groups. The extreme Low Risk profile was the most prevalent and included 46% of the sample. These adolescents reported levels of threat, blame, and triangulation that were statistically significantly below the sample means. Consistent with the classification as a low risk group, membership in this profile was indicative of lower levels of maladjustment and higher academic achievement. This profile served as the comparison group for the other four profiles in terms of outcome variables.

At the other extreme, the Global High Risk profile had statistically significantly higher than the sample average levels of threat, blame, and triangulation. This profile included 18% of the sample, suggesting a substantial minority of adolescents fit this globally affected profile.

The Global High Risk profile was exhibiting consistently worse functioning than the Low Risk profile on all outcomes: members reported higher levels of emotional distress and problem behavior and lower GPA. Thus, the Global High Risk profile was elevated on all risk factors and outcomes measured in this study.

Three other profiles with distinct patterns of appraisals and triangulation emerged as well. Of these three groups, the most prevalent (20% of the sample) was labeled Elevated Appraisals, because of statistically significantly elevated levels of blame and comparatively high levels of threat (i.e., relative to other profiles) and comparatively low levels of triangulation. Members of the Elevated Appraisals profile had significantly higher levels of emotional distress and problem behavior than members of the Low Risk profile; however, no differences were found for GPA. The other two profiles were characterized by one prominent appraisal and triangulation. The Threat-Triangulation group emerged with comparatively high levels of threat, significantly elevated levels of triangulation, and significantly lower levels of blame. This profile accounted for 12% of the sample and was at specific risk for emotional distress, but not for problem behavior or lower GPA. The Blame-Triangulation profile had significantly elevated levels of blame and triangulation and comparatively low levels of threat. This profile accounted for only 3% of the sample; however, even when models with fewer profiles were considered, this subgroup still emerged as a distinct profile. Members of the Blame-Triangulation profile were at elevated risk for problem behavior, but not for emotional distress or lower GPA; however, there was limited statistical power to detect significant differences.

By using a person-centered approach, the current study was able to provide new information that was not available from previous studies using variable-centered analytic methods. The LPA approach highlights that adolescents perceive threat, self-blame, and triangulation to different degrees and in different combinations. Our findings suggest that, rather than focusing on specific appraisals or triangulation, it is the *combination* of appraisals and triangulation that may provide the best information about risk for maladjustment and lower academic achievement. These findings build on prior work that documented longitudinal links where threat appraisals predicted increases in triangulation and, in turn, triangulation predicted increases in self-blame (Fosco & Grych, 2010). Although this prior work indicates that appraisals and triangulation into conflicts influence each other, the current study suggests that the extent to which these risk factors co-occur may differ across adolescents.

There are several ways in which the findings of the current study compliment previous studies using variable-centered approaches. First, threat appraisals appear to be a consistent contributor to internalizing problems, as evidenced by the Elevated Appraisals, Threat-Triangulation, and Global High Risk profiles having elevated scores on the depressed/anxious scale. This is consistent with longitudinal research that indicates threat is a key mechanism linking interparental conflict to changes in internalizing problems (Fosco & Feinberg, 2015; Grych et al., 2003). Likewise, groups where self-blame was elevated, namely the Elevated Appraisals, Blame-Triangulation, and Global High Risk profiles, all were elevated on the aggressive behavior scale. This is consistent with prior work documenting a unique association between blame and externalizing problems after accounting for other risk processes (e.g., Davies et al., 2002; Fosco & Grych, 2008). Finally,

the current results indicate that triangulation may accompany different cognitive appraisals and, in doing so, may be related to internalizing or externalizing problems, depending on how adolescents interpret the meaning of interparental conflicts. This sheds light on previous work that has documented different links between triangulation and internalizing and externalizing problems (e.g., Grych et al., 2004).

Further work is needed to understand family processes that explain why adolescents exhibit particular combinations of appraisals and triangulation. It is possible that particular patterns of family organization, such as parent alliances or scapegoating, may be linked with adolescents' appraisals of interparental conflicts. Adolescents who form an alliance with one parent against the other parent during conflicts are at higher risk for depression (Buchanan & Waizenhofer, 2001). This pattern of family organization may be reflected in the Threat-Triangulation profile identified in the current study. Adolescents in families that develop coalitions around parental conflicts may feel that by siding with one parent, they risk injuring their relationship with the other or may feel conflicted about how to navigate bids for allegiance from parents (Buchanan & Waizenhofer, 2001). These worries about the implications of interparental conflict for adolescents' well-being, or about their parents becoming angry with them, may lead adolescents to develop threat appraisals.

The Blame-Triangulation profile may reflect a scapegoating pattern of family organization around interparental conflicts. Scapegoating is a pattern of family interactions in which adolescents' aggressive or oppositional behaviors may serve the function of disrupting parental conflicts (Minuchin, 1974). For example, as a parental conflict episode starts, youth may engage in disruptive behaviors (e.g., yelling at parents, physical aggression; Davis, Hops, Alpert, & Sheeber, 1998) and parents may then shift attention from the interparental conflict to manage their child's inappropriate behaviors. Over time, adolescents in families with poorly regulated interparental conflicts may develop more hostile behaviors with their parents (Fosco et al., 2014), which is a risk factor for externalizing problems (Davis et al., 1998; Fosco et al., 2014). Interestingly, scapegoating families often develop beliefs that the oppositional child is the source of family problems, when in fact this organization around scapegoating serves to diffuse interparental conflicts (Minuchin & Fishman, 1981). As such, youth in scapegoating families may believe that they are responsible for causing or intervening with parental conflicts, consistent with a Blame-Triangulation profile and previous longitudinal findings indicating that triangulation is related to increases in selfblame (Fosco & Grych, 2010).

Limitations and Future Directions

The current study tested a few demographic predictors of profile membership, such as adolescent age, adolescent gender, and having experienced parental divorce; in general, they did not help distinguish profile membership. However, as postulated by Grych and Fincham (1990) and later formulations of the cognitive-contextual framework (Grych & Cardoza-Fernandez, 2001; Fosco et al., 2007), future work should further explore the individual differences that account for profile membership, such as broader family functioning (e.g., Fosco & Grych, 2007), parent-youth relationship quality (e.g., DeBoard, Fosco, Raynor, & Grych, 2010), and individual differences in temperament or genetic susceptibility to

interparental conflicts (e.g., Schlomer, Fosco, Cleveland, Vandenberg, & Feinberg, 2015). Such analyses were beyond the scope of the current study. In addition, this study was not able to address complexity in family situations after divorce. Although there were no differences in our results for intact and divorced families, it was not possible to probe different post-divorce family structures, such as shared custody, parental re-partnering, or family transitions that may shape adolescents' perceptions of conflict.

The current study also reflects a community sample drawn from a high school. Different patterns or prevalences of profiles may be evident in different age groups or populations. In particular, it is likely that this sample may not generalize to youth living in violent households or those who have been exposed to violence; these youth may experience higher levels of threat appraisals (Grych, 1998), and threat appraisals may have different implications for their psychological adjustment (e.g., Jouriles et al., 2014). Another important consideration for future work is the role of ethnicity and culture in these profiles; although our sample was diverse, sample size limited our ability to probe these factors adequately.

Finally, our study relies on mono-informant data. Future work that can incorporate different perspectives (e.g., parents) would offer a more complete assessment of family functioning. Further, multi-informant data can avoid potential bias in results that can be caused by shared method variance stemming from reliance on single-informant data.

Conclusion

Guided by the cognitive-contextual framework (Fosco et al., 2007; Grych & Fincham, 1990), we applied a person-centered analytic approach to understand how threat, blame, and triangulation into parental conflicts co-occur within individuals. This approach revealed five distinct profiles of appraisals and triangulation that indicate these processes co-occur in varying combinations that have unique implications for adolescent outcomes. The current findings offer new insights that can help clarify the factors that account for multifinality in maladjustment associated with adolescents' exposure to interparental conflict. A profile-based conceptualization of threat, blame, and triangulation may aid in assessing the nuanced types of risks youth face in families with high levels of conflict, and may guide prevention or intervention efforts to reduce the development of psychological or academic problems.

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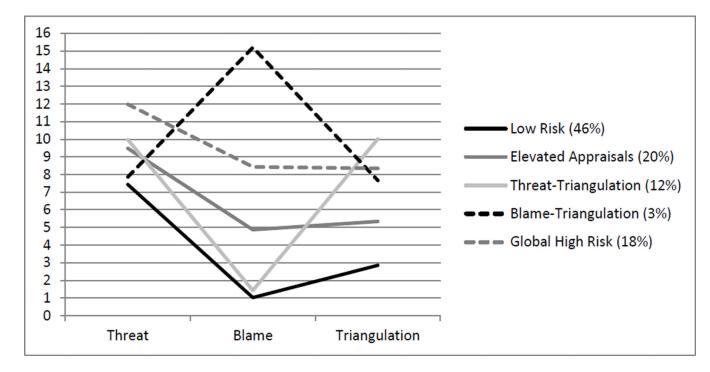


Figure 1. Parameter estimates for five-profile model: Within-profile item means.

Table 1

Descriptive Statistics for Demographic Characteristics, Profile Indicators, Predictors of Profile Membership, and Outcomes.

Variable			Free	dnency	(Valid %	Frequency (Valid %) or Mean (SD)	(as)	
Demographic Characteristics	Characteristics							
Gender	Female				179 (62.8%)	(%8		
(predictor)	Male				106 (37.2%)	2%)		
	Missing				0			
Age.				_ M	M=16.3~(SD=1.2)	D = 1.2)		
predictor)				Min:	= 14.0, M	Min = 14.0, Max = 19.0		
					Missing = 1	= 1		
Divorced	No				159 (56.6%)	(%9		
Status (predictor)	Yes				122 (43.4%)	4%)		
	Missing				4			
Race/Ethnicity	White				172 (60.4%)	4%)		
	African American				27 (9.5%)	(%)		
	Hispanic/Latino				54 (19.0%)	(%(
	Asian				13 (4.6%)	(%)		
	Other				19 (6.7%)	(%		
	Missing				0			
Profile Indicator	Profile Indicators and Outcome Variables	les						
		M	QS	Min	Max	Missing	Skew	Kurt.
Threat		6.0	4.8	0	22.0	0	.57	30
Blame		3.7	3.8	0	18.0	0	1.25	1.51
Triangulation		5.4	3.5	0	15.0	4	.40	58
Emotional Distress	ess	8.6	6.9	0	28.0	20	.75	46
Problem Behavior	or	14.18	7.39	0	37.00	15	.40	11

Variable		Freq	uency (requency (Valid %) or Mean (SD)	or Mea	(QS) u	
Demographic Characteristics							
Grade Point Average (GPA)	3.0 0.7	0.7	-	4	7	48	15.

Note. Emotional Distress was measured using the YSR depressed/anxious subscale; Problem Behavior was measured using the YSR aggressive behavior subscale.

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Table 2

Model Fit Information for Latent Profile Analyses.

No. of Profiles	Log- likelihood	No. of Parameters Estimated	AIC	BIC	a-BIC	Entropy	BLRT
1	-2389.26	9	4790.52	4812.43	4793.41	1	i
2	-2329.32	10	4678.63	4715.16	4683.45	.82	000
ю	-2294.27	14	4616.53	4667.67	4623.27	06.	000
4	2274.16	18	4584.31	4650.06	4592.98	98.	000
w	-2257.71	22	4559.42	4639.77	4570.01	8 .	000
9	-2246.91	26	4545.82	4640.78	4558.33	88.	000
7	-2240.03	30	4540.05	4649.63	4554.50	.84	720.

Note. Dashes indicate criterion was not applicable; bold indicates selected model. AIC = Akaike information criterion; BIC = Bayesian information criterion; a-BIC = sle size adjusted BIC; BLRT = bootstrapped likelihood ratio test.

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Table 3

Parameter Estimates for Five-Profile Model.

	l sk					
w	Global High Risk	.18 n=52		11.98^{b}	8.43 <i>b</i>	8.34 <i>b</i>
4	Blame- Triangulation	.03 <i>n</i> =10	sans	7.86	15.20^{b}	499.L
ဧ	Threat- Triangulation	.12 <i>n</i> =34	Within-profile means	76.6	1.43 <i>a</i>	10.02^{b}
7	Elevated Appraisals	.20 n=57		9.48	4.87 <i>b</i>	5.34
1	Low Risk	.46 <i>n</i> =132		7.43 <i>a</i>	1.03^{a}	2.85 <i>a</i>
		nces	Item means (SDs)	8.99 (4.78)	3.68 (3.83)	5.36 (3.53)
		Profile prevalences		Threat	Blame	Triangulation

 $^{\it a}$ Statistically significantly lower than the overall item mean at p < .05.

 b Statistically significantly higher than the overall item mean at $\rho < .05.$

Note. Within-item variances were constrained to be equal across profiles.

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Table 4

Effects of Predictors on Profile Membership.

	1	7	8	4	w
Predictor	Low Risk	Elevated Appraisals	Threat- Triangulation	Blame- Triangulation	Global High Risk
		(Beta O	(Beta Odds Ratio)		
Age	I	42 (.66)	.22 (1.2)	51 (.60)	29 (.75)
Gender	1	-3.5 (.03)	14 (.87)	-1.1 (.33)	.14 (1.2)
Divorced Status	1	48 (.62)	.74 (2.1)	1.0 (2.7)	.19 (1.2)
Age	.29 (1.3)	13 (.88)	.51 ^a (1.7)	22 (.80)	l
Gender	14 (.87)	-3.7 (.03)	28 (.75)	-1.3 (.28)	1
Divorced Status	19 (.82)	67 (.51)	.55 (1.7)	.81 (2.3)	i

^aStatistically significant at p < .05.

Note. Dashes indicate the reference profile.

Table 5

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Effects of Profile Membership on Outcomes.

	1	7	8	4	w ?
	Low Risk	Elevated Appraisals	Threat- Triangulation	Blame- Triangulation	Global High Risk
		Mean (SE)	(SE)		
Emotional Distress ^a	6.0 (.6)	$10.2^{b}(1.1)$	$11.8^{b}(1.6)$	7.1 (2.8)	12.1 <i>b</i> (1.2)
Aggressive Behavior ^a	11.6 (.6)	16.5 ^b (1.3)	13.6 (1.4)	16.8 (2.7)	$18.5^{b,c}(1.2)$
Grade Point Average ^a	3.0 (.1)	2.9°(.1)	3.3 (.1)	3.1 (.2)	2.7 <i>b</i> , <i>c</i> (.1)

 $^{^{2}}$ Latent profile membership is an overall significant predictor of the outcome.

 $b_{
m Significantly}$ different from Low Risk.

 $^{^{\}mathcal{C}}$ Significantly different from Threat-Triangulation.